

# (12) UK Patent Application (19) GB (11) 2 328 467 (13) A

(43) Date of Printing by UK Office 24.02.1999

(21) Application No 9820642.8

(22) Date of Filing 21.03.1997

(30) Priority Data

(31) 08621411 (32) 25.03.1996 (33) US

(86) International Application Data

PCT/US97/04543 En 21.03.1997

(87) International Publication Data

WO97/36084 En 02.10.1997

(71) Applicant(s)

Dresser Industries Inc  
(Incorporated in USA - Delaware)  
2001 Ross Avenue, Dallas, Texas 75201, Delaware,  
United States of America

(72) Inventor(s)

Lee Morgan Smith  
William A Goldman

(51) INT CL<sup>6</sup>

E21B 7/00 44/00 // E21B 47/00

(52) UK CL (Edition Q )

E1F FGH

G1N NAAJA N3S7 N7H2 N7L2

(56) Documents Cited by ISA

US 5415030 A US 5305836 A US 4926686 A

US 4685329 A

(58) Field of Search by ISA

U.S. : 175/39,40; 73/152.43, 152.44, 152.45, 152.47,  
152.48

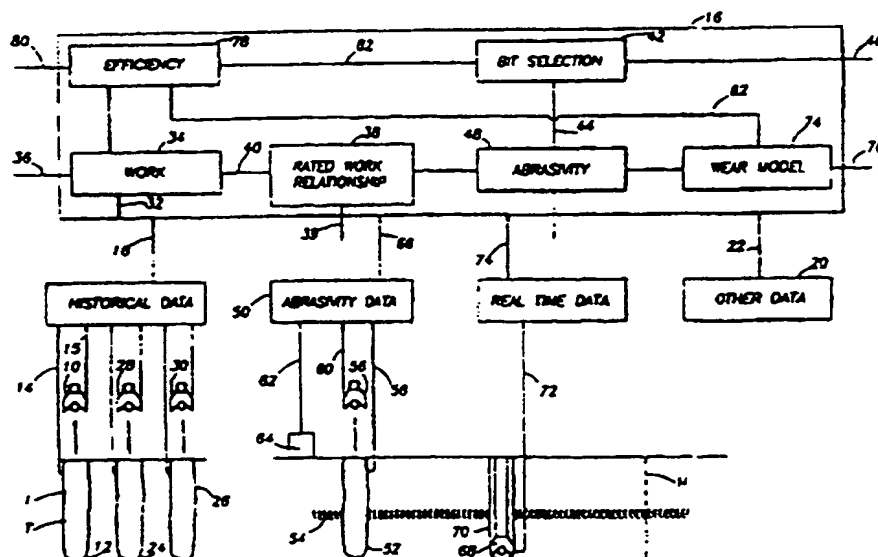
(74) Agent and/or Address for Service

Kilburn & Strobe  
20 Red Lion Street, LONDON, WC1R 4PJ,  
United Kingdom

(54) Abstract Title

Method of assaying downhole occurrences and conditions

(57) A method of assaying work of a bit (10) of a given size and design comprises the steps of drilling a hole with the bit (10) from an initial point (I) to a terminal point (T) and recording the distance between the initial and terminal points. Electrical incremental actual force signals (18) are generated, each corresponding to a force of the bit (10) over a respective increment of the distance between the initial and terminal points. Electrical incremental distance signals (14) are also generated, each corresponding to the length of the increment for a respective one of the incremental actual force signals (18). The incremental actual force signals and incremental distance signals are processed to produce a value corresponding to the total work done by the bit in drilling from the initial point to the terminal point. Using such a work assay, a number of other downhole occurrences and/or conditions can be assayed.



GB 2 328 467 A